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Racism and Research: The Case of the Tuskegee Syphilis Study

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Was it scientific zeal and the search for medical knowledge? Or was it a callous disregard for the lives and suffering of persons thought to be inferior in a racist society? Probably both, and the lessons remain important for everyone. This tragic study has become a classic example of how to do unethical research. Perhaps the lessons to be learned from it can somehow begin to make amends for the harm it did.

In 1932 the U.S. Public Health Service (USPHS) initiated an experiment in Macon County, Alabama, to determine the natural course of untreated, latent syphilis in black males. The test comprised 400 syphilitic men, as well as 200 uninfected men who served as controls. The first published report of the study appeared in 1936 with subsequent papers issued every four to six years, through the 1960s. When penicillin became widely available by the early 1950s as the preferred treatment for syphilis, the men did not receive therapy. In fact on several occasions, the USPHS actually sought to prevent treatment. Moreover, a committee at the federally operated Center for Disease Control decided in 1969 that the study should be continued. Only in 1972, when accounts of the study first appeared in the national press, did the Department of Health, Education, and Welfare halt the experiment. At that time seventy-four of the test subjects were still alive; at least twenty-eight, but perhaps more than 100, had died directly from advanced syphilitic lesions. In August 1972, HEW appointed an investigatory panel, which issued a report the following year. The panel found the study to have been "ethically unjustified," and argued that penicillin should have been provided to the men.

This article attempts to place the Tuskegee Study in a historical context and to assess its ethical implications. Despite the media attention which the study received, the HEW *Final Report*, and the criticism expressed by several professional organizations, the experiment has been largely misunderstood. The most basic questions of *how* the study was undertaken in the first place and *why* it continued for forty years were never addressed by the HEW investigation. Moreover, the panel misconstrued the nature of the experiment, failing to consult important documents available at the National Archives which bear significantly on its ethical assessment. Only by examining the specific ways in which values are engaged in scientific research can the study be understood.

RACISM AND MEDICAL OPINION

A brief review of the prevailing scientific thought regarding race and heredity in the early twentieth century is fundamental for an understanding of the Tuskegee Study. By the turn of the century, Darwinism had provided a new rationale for American racism. Essentially primitive peoples, it was argued, could not be assimilated into a complex, white civilization. Scientists speculated that in the struggle for survival the Negro in America was doomed. Particularly prone to disease, vice, and crime, black Americans could not be helped by education or philanthropy. Social Darwinists analyzed census data to predict the virtual extinction of the Negro in the twentieth century, for they believed the Negro race in America was in the throes of a degenerative evolutionary process.

The medical profession supported these findings of late nineteenth- and early twentieth-century anthropologists, ethnologists, and biologists. Physicians studying the effects of emancipation on health concluded almost universally that freedom had caused the mental, moral, and physical deterioration of the black population. They substantiated this argument by citing examples in the comparative anatomy of the black and white races. As Dr. W. T. English wrote: "A careful inspection reveals the body of the negro a mass of minor defects and imperfections from the crown of the head to the soles of the feet. . . ." Cranial structures, wide nasal apertures, receding chins, projecting jaws, all typed the Negro as the lowest species in the Darwinian hierarchy.

Interest in racial differences centered on the sexual nature of blacks. The Negro, doctors explained, possessed an excessive sexual desire, which threatened the very foundations of white society. As one physician noted in the *Journal of the American Medical Association*, "The negro springs from a southern race, and as such his sexual appetite is strong; all of his environments stimulate this appetite, and as a general rule his emotional type of religion certainly does not decrease it." Doctors reported a complete lack of morality on the part of blacks:

Virtue in the negro race is like angels' visits—few and far between. In a practice of sixteen years I have never examined a virgin negro over fourteen years of age.

A particularly ominous feature of this overzealous sexuality, doctors argued, was the black males' desire for white women. "A perversion from which most races are exempt," wrote Dr. English, "prompts the negro's inclination towards white women, whereas other races incline towards females of their own." Though English estimated the "gray matter of the negro brain" to be at least a thousand years behind that of the white races, his genital organs were overdeveloped. As Dr. William Lee Howard noted:

The attacks on defenseless white women are evidences of racial instincts that are about as amenable to ethical culture as is the inherent odor of the race. . . .

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When education will reduce the size of the negro's penis as well as bring about the sensitiveness of the terminal fibers which exist in the Caucasian, then will it also be able to prevent the African's birth-right to sexual madness and excess.

One southern medical journal proposed "Castration Instead of Lynching," as retribution for black sexual crimes. "An impressive trial by a ghost-like kuklux klan [sic] and a 'ghost' physician or surgeon to perform the operation would make it an event the 'patient' would never forget," noted the editorial.

According to these physicians, lust and immorality, unstable families, and reversion to barbaric tendencies made blacks especially prone to venereal diseases. One doctor estimated that over 50 percent of all Negroes over the age of twenty-five were syphilitic. Virtually free of disease as slaves, they were now overwhelmed by it, according to informed medical opinion. Moreover, doctors believed that treatment for venereal disease among blacks was impossible, particularly because in its latent stage the symptoms of syphilis become quiescent. As Dr. Thomas W. Murrell wrote:

They come for treatment at the beginning and at the end. When there are visible manifestations or when harried by pain, they readily come, for as a race they are not averse to physic; but tell them not, though they look well and feel well, that they are still diseased. Here ignorance rates science a fool . . .

Even the best-educated black, according to Murrell, could not be convinced to seek treatment for syphilis. Venereal disease, according to some doctors, threatened the future of the race. The medical profession attributed the low birth rate among blacks to the high prevalence of venereal disease, which caused stillbirths and miscarriages. Moreover, the high rates of syphilis were thought to lead to increased insanity and crime. One doctor writing at the turn of the century estimated that the number of insane Negroes had increased thirteen-fold since the end of the Civil War. Dr. Murrell's conclusion echoed the most informed anthropological and ethnological data:

So the scourge sweeps among them. Those that are treated are only half cured, and the effort to assimilate a complex civilization driving their diseased minds until the results are criminal records. Perhaps here, in conjunction with tuberculosis, will be the end of the negro problem. Disease will accomplish what man cannot do.

This particular configuration of ideas formed the core of medical opinion concerning blacks, sex, and disease in the early twentieth century. Doctors generally discounted socioeconomic explanations of the state of black health, arguing that better medical care could not alter the evolutionary scheme. These assumptions provide the backdrop for examining the Tuskegee Syphilis Study.

The results of these studies of case records suggest the desirability of making a further study of the effect of untreated syphilis on the human economy among people now living and engaged in their daily pursuits.

It also seems that the USPHS believed the experiment might demonstrate that antisyphilitic treatment was unnecessary. As Cumming noted: "It is expected the results of this study may have a marked bearing on the treatment, or conversely the non-necessity of treatment, of cases of latent syphilis. . . ."

SELECTING THE SUBJECTS

Clark sent Dr. Raymond Vonderlehr to Tuskegee in September 1932 to assemble a sample of men with latent syphilis for the experiment. The basic design of the study called for the selection of syphilitic black males between the ages of twenty-five and sixty, a thorough physical examination including x-rays, and finally, a spinal tap to determine the incidence of neuro-syphilis. They had no intention of providing any treatment for the infected men. The USPHS originally scheduled the whole experiment to last six months; it seemed to be both a simple and inexpensive project.

The task of collecting the sample, however, proved to be more difficult than the USPHS had supposed. Vonderlehr canvassed the largely illiterate, poverty-stricken population of sharecroppers and tenant farmers in search of test subjects. If his circulars requested only men over twenty-five to attend his clinics, none would appear, suspecting he was conducting draft physicals. Therefore, he was forced to test large numbers of women and men who did not fit the experiments specifications. This involved considerable expense since the USPHS had promised the Macon County Board of Health that it would treat those who were infected, but not included in the study. Clark wrote to Vonderlehr about the situation: "It never once occurred to me that we would be called upon to treat a large part of the county as return for the privilege of making this study. . . . I am anxious to keep the expenditures for treatment down to the lowest possible point because it is the one item of expenditure in connection with the study most difficult to defend despite our knowledge of the need therefor." Vonderlehr responded: "If we could find from 100 to 200 cases . . . we would not have to do another Wassermann on useless individuals. . . ."

Significantly, the attempt to develop the sample contradicted the prediction the USPHS had made initially regarding the prevalence of the disease in Macon County. Overall rates of syphilis fell well below expectations; as opposed to the USPHS projection of 35 percent, 20 percent of those tested were actually diseased. Moreover, those who had sought and received previous treatment far exceeded the expectations of the USPHS. Clark noted in a letter to Vonderlehr:

I find your report of March 6th quite interesting but regret the necessity for Wassermanning [*sic*] . . . such a large number of individuals in order to uncover this relatively limited number of untreated cases.

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Further difficulties arose in enlisting the subjects to participate in the experiment, to be "Wassermanned," and to return for a subsequent series of examinations. Vonderlehr found that only the offer of treatment elicited the cooperation of the men. They were told they were ill and were promised free care. Offered therapy, they became willing subjects. The USPHS did not tell the men that they were participants in an experiment; on the contrary, the subjects believed they were being treated for "bad blood"—the rural South's colloquialism for syphilis. They thought they were participating in a public health demonstration similar to the one that had been conducted by the Julius Rosenwald Fund in Tuskegee several years earlier. In the end, the men were so eager for medical care that the number of defaulters in the experiment proved to be insignificant.

To preserve the subjects' interest, Vonderlehr gave most of the men mercurial ointment, a noneffective drug, while some of the younger men apparently received inadequate dosages of neoarsphenamine. This required Vonderlehr to write frequently to Clark requesting supplies. He feared the experiment would fail if the men were not offered treatment.

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The readiness of the test subjects to participate of course contradicted the notion that blacks would not seek or continue therapy.

The final procedure of the experiment was to be a spinal tap to test for evidence of neuro-syphilis. The USPHS presented this purely diagnostic exam, which often entails considerable pain and complications, to the men as a "special treatment." Clark explained to Moore:

We have not yet commenced the spinal punctures. This operation will be deferred to the last in order not to unduly disturb our field work by any adverse reports by the patients subjected to spinal puncture because of some disagreeable sensations following this procedure. These negroes are very ignorant and easily influenced by things that would be of minor significance in a more intelligent group.

The letter to the subjects announcing the spinal tap read:

Some time ago you were given a thorough examination and since that time we hope you have gotten a great deal of treatment for bad blood. You will now be given your last chance to get a second examination. This examination is a very special one and after it is finished you will be given a special treatment if it is believed you are in a condition to stand it. . . .

REMEMBER THIS IS YOUR LAST CHANCE FOR SPECIAL FREE TREATMENT. BE SURE TO MEET THE NURSE.

The HEW investigation did not uncover this crucial fact: the men participated in the study under the guise of treatment.

Despite the fact that their assumption regarding prevalence and black attitudes toward treatment had proved wrong, the USPHS decided in the summer of 1933 to continue the study. Once again, it seemed only "natural" to pursue the research since the sample already existed, and with a depressed economy, the cost of treatment appeared prohibitive—although there is no indication it was ever considered. Vonderlehr first suggested extending the study in letters to Clark and Wenger:

At the end of this project we shall have a considerable number of cases presenting various complications of syphilis, who have received only mercury and may still be considered untreated in the modern sense of therapy. Should these cases be followed over a period of from five to ten years many interesting facts could be learned regarding the course and complications of untreated syphilis.

"As I see it," responded Wenger, "we have no further interest in these patients *until they die*." Apparently, the physicians engaged in the experiment believed that only autopsies could scientifically confirm the findings of the study.

Bringing the men to autopsy required the USPHS to devise a further series of deceptions and inducements. Wenger warned Vonderlehr that the men must not realize that they would be autopsied:

There is one danger in the latter plan and that is if the colored population become aware that accepting free hospital care means a postmortem; every darky will leave Macon County and it will hurt [Dr. Eugene] Dibble's hospital.

The USPHS offered several inducements to maintain contact and to procure the continued cooperation of the men. Eunice Rivers, a black nurse, was hired to follow their health and to secure approval for autopsies. She gave the men non-effective medicines—"spring tonic" and aspirin—as well as transportation and hot meals on the days of their examinations. More important, Nurse Rivers provided continuity to the project over the entire forty-year period. By supplying "medicinals," the USPHS was able to continue to deceive the participants, who believed that they were receiving therapy from the government doctors. Deceit was integral to the study. When the test subjects complained about spinal taps one doctor wrote:

They simply do not like spinal punctures. A few of those who were tapped are enthusiastic over the results but to most, the suggestion causes violent shaking of the head; others claim they were robbed of their procreative powers (regardless of the fact that I claim it stimulates them).

Letters to the subjects announcing an impending USPHS visit to Tuskegee explained: "[The doctor] wants to make a special examination to find out how

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you have been feeling and whether the treatment has improved your health." In fact, after the first six months of the study, the USPHS had furnished no treatment whatsoever.

Finally, because it proved difficult to persuade the men to come to the hospital when they became severely ill, the USPHS promised to cover their burial expenses. The Milbank Memorial Fund provided approximately \$50 per man for this purpose beginning in 1935. This was a particularly strong inducement as funeral rites constituted an important component of the cultural life of rural blacks. One report of the study concluded. "Without this suasion it would, we believe, have been impossible to secure the cooperation of the group and their families."

Reports of the study's findings, which appeared regularly in the medical press beginning in 1936, consistently cited the ravages of untreated syphilis. The first paper, read at the 1936 American Medical Association annual meeting, found "that syphilis in this period [latency] tends to greatly increase the frequency of manifestations of cardiovascular disease." Only 16 percent of the subjects gave no sign of morbidity as opposed to 61 percent of the controls. Ten years later, a report noted coldly, "The fact that nearly twice as large a proportion of the syphilitic individuals as of the control group has died is a very striking one." Life expectancy, concluded the doctors, is reduced by about 20 percent.

A 1955 article found that slightly more than 30 percent of the test group autopsied had died *directly* from advanced syphilitic lesions of either the cardiovascular or the central nervous system. Another published account stated, "Review of those still living reveals that an appreciable number have late complications of syphilis which probably will result, for some at least, in contributing materially to the ultimate cause of death." In 1950, Dr. Wenger had concluded, "We now know, where we could only surmise before, that we have contributed to their ailments and shortened their lives." As black physician Vernal Cave, a member of the HEW panel, later wrote, "They proved a point, then proved a point, then proved a point."

During the forty years of the experiment the USPHS had sought on several occasions to ensure that the subjects did not receive treatment from other sources. To this end, Vonderlehr met with groups of local black doctors in 1934, to ask their cooperation in not treating the men. Lists of subjects were distributed to Macon County physicians along with letters requesting them to refer these men back to the USPHS if they sought care. The USPHS warned the Alabama Health Department not to treat the test subjects when they took a mobile VD unit into Tuskegee in the early 1940s. In 1941, the Army drafted several subjects and told them to begin antisyphilitic treatment immediately. The USPHS supplied the draft board with a list of 256 names they desired to have excluded from treatment, and the board complied.

In spite of these efforts, by the early 1950s many of the men had secured some treatment on their own. By 1952, almost 30 percent of the test subjects

had received some penicillin, although only 7.5 percent had received what could be considered adequate doses. Vonderlehr wrote to one of the participating physicians, "I hope that the availability of antibiotics has not interfered too much with this project." A report published in 1955 considered whether the treatment that some of the men had obtained had "defeated" the study. The article attempted to explain the relatively low exposure to penicillin in an age of antibiotics, suggesting as a reason: "the stoicism of these men as a group; they still regard hospitals and medicines with suspicion and prefer an occasional dose of time-honored herbs or tonics to modern drugs." The authors failed to note that the men believed they already were under the care of the government doctors and thus saw no need to seek treatment elsewhere. Any treatment which the men might have received, concluded the report, had been insufficient to compromise the experiment.

When the USPHS evaluated the status of the study in the 1960s they continued to rationalize the racial aspects of the experiment. For example, the minutes of a 1965 meeting at the Center for Disease Control recorded:

Racial issue was mentioned briefly. Will not affect the study. Any questions can be handled by saying these people were at the point that therapy would no longer help them. They are getting better medical care than they would under any other circumstances.

A group of physicians met again at the CDC in 1969 to decide whether or not to terminate the study. Although one doctor argued that the study should be stopped and the men treated, the consensus was to continue. Dr. J. Lawton Smith remarked, "You will never have another study like this; take advantage of it." A memo prepared by Dr. James B. Lucas, Assistant Chief of the Venereal Disease Branch, stated: "Nothing learned will prevent, find, or cure a single case of infectious syphilis or bring us closer to our basic mission of controlling venereal disease in the United States." He concluded, however, that the study should be continued "along its present lines." When the first accounts of the experiment appeared in the national press in July 1972, data were still being collected and autopsies performed.

THE NEW FINAL REPORT

HEW finally formed the Tuskegee Syphilis Study Ad Hoc Advisory Panel on August 28, 1972, in response to criticism that the press descriptions of the experiment had triggered. The panel, composed of nine members, five of them black, concentrated on two issues. First, was the study justified in 1932 and had the men given their informed consent? Second, should penicillin have been provided when it became available in the early 1950s? The panel was also charged with determining if the study should be terminated and assessing

current policies regarding experimentation with human subjects. The group issued their report in June 1973.

By focusing on the issues of penicillin therapy and informed consent, the *Final Report* and the investigation betrayed a basic misunderstanding of the experiment's purposes and design. The HEW report implied that the failure to provide penicillin constituted the study's major ethical misjudgment; implicit was the assumption that no adequate therapy existed prior to penicillin. Nonetheless medical authorities firmly believed in the efficacy of arsenotherapy for treating syphilis at the time of the experiments inception in 1932. The panel further failed to recognize that the entire study had been predicated on nontreatment. Provision of effective medication would have violated the rationale of the experiment—to study the natural course of the disease until death. On several occasions, in fact, the USPHS had prevented the men from receiving proper treatment. Indeed, there is no evidence that the USPHS ever considered providing penicillin.

The other focus of the *Final Report*—informed consent—also served to obscure the historical facts of the experiment. In light of the deceptions and exploitations which the experiment perpetrated, it is an understatement to declare, as the *Report* did, that the experiment was “ethically unjustified,” because it failed to obtain informed consent from the subjects. The *Final Report's* statement, “Submitting voluntarily is not informed consent,” indicated that the panel believed that the men had volunteered *for the experiment*. The records in the National Archives make clear that the men did not submit voluntarily to an experiment; they were told and they believed that they were getting free treatment from expert government doctors for a serious disease. The failure of the HEW *Final Report* to expose this critical fact—that the USPHS lied to the subjects—calls into question the thoroughness and credibility of their investigation.

Failure to place the study in a historical context also made it impossible for the investigation to deal with the essentially racist nature of the experiment. The panel treated the study as an aberration, well-intentioned but misguided. Moreover, concern that the *Final Report* might be viewed as a critique of human experimentation in general seems to have severely limited the scope of the inquiry. The *Final Report* is quick to remind the reader on two occasions: “The position of the Panel must not be construed to be a general repudiation of scientific research with human subjects.” The *Report* assures as that a better-designed experiment could have been justified:

It is possible that a scientific study in 1932 of untreated syphilis, properly conceived with a clear protocol and conducted with suitable subjects who fully understood the implications of their involvement, might have been justified in the pre-penicillin era. This is especially true when one considers the uncertain nature of the results of treatment of late latent syphilis and the highly toxic nature of therapeutic agents then available.

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This statement is questionable in view of the proven dangers of untreated syphilis known in 1932.

Since the publication of the HEW *Final Report*, a defense of the Tuskegee Study has emerged. These arguments, most clearly articulated by Dr. R. H. Kampmeier in the *Southern Medical Journal*, center on the limited knowledge of effective therapy for latent syphilis when the experiment began. Kampmeier argues that by 1950, penicillin would have been of no value for these men. Others have suggested that the men were fortunate to have been spared the highly toxic treatments of the earlier period. Moreover, even these contemporary defenses assume that the men never would have been treated anyway. As Dr. Charles Barnett of Stanford University wrote in 1974, "The lack of treatment was not contrived by the USPHS but was an established fact of which they proposed to take advantage." Several doctors who participated in the study continued to justify the experiment. Dr. J. R. Heller, who on one occasion had referred to the test subjects as the "Ethiopian population," told reporters in 1972:

I don't see why they should be shocked or horrified. There was no racial side to this. It just happened to be in a black community. I feel this was a perfectly straightforward study, perfectly ethical, with controls. Part of our mission as physicians is to find out what happens to individuals with disease and without disease.

These apologies, as well as the HEW *Final Report*, ignore many of the essential ethical issues which the study poses. The Tuskegee Study reveals the persistence of beliefs within the medical profession about the nature of blacks, sex, and disease—beliefs that had tragic repercussions long after their alleged "scientific" bases were known to be incorrect. Most strikingly, the entire health of a community was jeopardized by leaving a communicable disease untreated. There can be little doubt that the Tuskegee researchers regarded their subjects as less than human. As a result, the ethical canons of experimenting on human subjects were completely disregarded.

The study also raises significant questions about professional self-regulation and scientific bureaucracy. Once the USPHS decided to extend the experiment in the summer of 1933, it was unlikely that the test would be halted short of the men's deaths. The experiment was widely reported for forty years without evoking any significant protest within the medical community. Nor did any bureaucratic mechanism exist within the government for the periodic reassessment of the Tuskegee experiment's ethics and scientific value. The USPHS sent physicians to Tuskegee every several years to check on the study's progress, but never subjected the morality or usefulness of the experiment to serious scrutiny. Only the press accounts of 1972 finally punctured the continued rationalizations of the USPHS and brought the study to an end. Even the HEW investigation was compromised by fear that it would be considered a threat to future human experimentation.

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In retrospect the Tuskegee Study revealed more about the pathology of racism than it did about the pathology of syphilis; more about the nature of scientific inquiry than the nature of the disease process. The injustice committed by the experiment went well beyond the facts outlined in the press and the HEW *Final Report*. The degree of deception and damages have been seriously underestimated. As this history of the study suggests, the notion that science is a value-free discipline must be rejected. The need for greater vigilance in assessing the specific ways in which social values and attitudes affect professional behavior is clearly indicated.*

*In the summer of 2010 Susan Reverby, history professor at Wellesley College, revealed that from 1946 to 1948 doctors from the United States deliberately infected Guatemalans with venereal diseases, ostensibly to study the use of penicillin as a preventative as well as a curative for syphilis. Dr. John C. Cutler, involved in the Tuskegee experiments, led the experiment in Guatemala. It is unclear if the Guatemalan subjects were effectively treated once they were infected with venereal diseases. See Donald G. McNeil's article, "U.S. Infected Guatemalans with Syphilis in '40s" in *The New York Times*, October 1, 2010, page A1 and A6. [Editor's note].